DOCUMENT RESUME

ED 347 316 CE 061 528

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TITLE An Evaluation of the Applied Mathematics and Applied Communication Demonstration Sites in Indiana. Final Research Report.
INSTITUTION Wabash Valley Vocational Cooperative, Clinton, IN.
SPONS AGENCY Indiana State Dept. of Education, Indianapolis. Vocational Education Section.
PUB DATE 15 May 92
NOTE 178p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC08 Plus Postage.
DESCRIPTORS *Academic Achievement; Academic Education; *Communication (Thought Transfer); Demonstration Programs; Educational Research; High Schools; Mathematical Applications; *Mathematics; Media Research; Pretests Posttests; *Program Effectiveness; Program Evaluation; Program Implementation; Student Attitudes; Teacher Attitudes; *Vocational Education
IDENTIFIERS *Applied Communication; *Applied Mathematics

ABSTRACT

Implementation of nationally developed applied academics curriculum packages at 16 pilot sites in Indiana was evaluated. Settings were urban and rural and included comprehensive high schools and vocational centers. Data were compiled from 8 applied mathematics and 9 applied communication teachers and from 559 students. The primary goal was to determine the effectiveness of applied academics curriculum materials in integrating academics and boosting academic achievement and occupational preparation in secondary schools. Teachers and students completed questionnaire survey forms; teachers completed evaluations of the applied materials as they used the modules/units; and participating students and comparison groups of students completed either the applied communications assessment or mathematics achievement assessment as pre- and post-tests. The applied mathematics control and experimental groups reported gains from pre- to posttesting, 3.02 and 7.06, respectively. The applied mathematics group outperformed the control group in all but one of seven goals. The applied communications students reported an overall gain of 17 percent; positive gains were recorded in each of eight modules tested. (Appendixes, amounting to almost three-fourths of the report, include site descriptions, student survey data, and results of the evaluations of the applied mathematics and applied communication modules.) (YLB)

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AN EVALUATION OF THE APPLIED MATHEMATICS AND APPLIED COMMUNICATION DEMONSTRATION SITES IN INDIANA

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EXECUTIVE SUMMARY

Introduction

This report summarizes the evaluation findings from the Indiana Department of Education funded applied academic projects (Applied Communication and Applied Mathematics). This evaluation included a summary of student and teacher data regarding these materials.

The settings for the pilot sites were urban and rural, and included comprehensive high schools and vocational centers. Data were compiled from eight Applied Mathematics teachers and nine Applied Communication teachers. Responses from 559 students were used to generate the student information.

Goals and Objectives

The primary goal of this research effort was **to determine the effectiveness of Applied Academics curriculum materials in integrating academics and boosting academic achievement and occupational preparation in secondary schools.** The outcomes of this assessment project will report the impact Applied Communication and Applied Mathematics had on:

a. the occupational and communication/mathematics skills, knowledge, and attitudes (competencies) of enrolled students;

b. the enrolled students' abilities to demonstrate effective application of communication/mathematics competencies to the workplace and their personal lives;

c. teachers' abilities to demonstrate to students practical useful applications of communication/mathematics competencies to the workplace and their personal lives;

d. collaboration efforts of academic and vocational teachers to assure relevance and practical application of communication/mathematics instruction to a variety of occupations;

e. the enrolled students' (experimental and comparison) background and change in attitude toward communication/mathematics competency development;

f. the enrolled students' (experimental and comparison) degree of change in academic achievement in communication/mathematics competencies; and

g. communication and cooperation between English language arts/mathematics and vocational teachers and administrators.

The evaluation efforts have also gathered information with regard to (1) the strengths and weakness of Applied Communication/Applied Mathematics instructional materials, and (2) participating teachers' background and changes in attitudes regarding instruction, teaching, and students' achievement related to applied communication/mathematics in general and the AIT/CORD Applied Communication/Mathematics instructional materials specifically.

The limited number of teacher respondents in Applied Communication and Applied Mathematics restricts the analysis which can be done. However, these teachers did thoroughly review and critique the materials and their opinions are worthy of considertion and do provide insight into there use in various settings.

Findings

The Applied Mathematics Control and Experimental Groups reported gains from pre- to post- testing, 3.02 and 7.06 respectfully. As noted, the Applied Mathematics (experimental) group had more than twice the gain as the Control group.

The Applied Mathematics group out performed the Control group in all but one of the seven Goals. That Goal was Goal 1, which emphasizes computations of additions, substraction, multiplication, and division.

The Applied Communication students reported an overall gain of 17 percent from pre- to post- testing. This would include skill areas in reading, writing, speaking, and listening.

Positive gains were recorded in each of the 8 modules tested. The gains ranged from seven percent in Module 2, to 25 percent in Module 3.

Conclusions

The data indicates that the Applied Mathematics curriculum materials enable students to perform at higher academic levels across a broader range of proficiency areas in mathematics than the traditional materials being used in comparison classes.

The Applied Mathematics curriculum will enhance student performance in areas identified as essential by the NCTM. These results are very similar to those found in Illinois during the 1989-90 school year.

The data indicates that the Applied Communication curriculum materials enable students to perform at higher academic levels across a broad range of proficiency areas in language arts.

In general, the teachers and students felt that the applied materials were valuable, and were developed at the appropriate level of difficulty. The instructors liked to pick and choose from the Applied Communication materials and use them as a supplement, rather than as the primary text for the course. However, the Applied Mathematics materials are more commonly used as a primary resource. About 50% of the schools implemented a new "applied" course, the others fit the materials into an existing course.

The teachers indicated that the applied materials created an opportunity for them to use a greater variety of teaching methods as compared to other courses they taught. Some of those methods were the conference, discussion procedure in problem-solving, visual aids,

demonstrations, and laboratory exercises. Overall, the teachers rated the applied academic materials as "Good or Very Good" and that the students were actively engaged in learning activities for the majority of the instructional time.

By the end of the school year, most students felt that they had a sound grasp of the occupational and communication/mathematics skills, knowledge, and attitudes needed for the workplace and could adequately demonstrate them.

There was not a lot of evidence to support enhanced collaboration between vocational and academic teachers beyond what they had been doing in previous years and with other courses. Their teaching methods changed, but the teachers continued to pretty much operate under the same system. The teachers reported that more collaboration would be desirable, but these curricula materials, of and by themselves, did not bring about a high level of "integration" in these sites.

Additional evaluation needs to be completed on Applied Communication and Applied Mathematics materials to more accurately define the program and student characteristics which comprise the user population groups. These findings need to be compared to research in other states which used similar instruments and procedures to create a larger data base from which results can be analyzed.

Introduction

In a recent joint publication of the U.S. Department of Education and the U.S. Department of Labor (1988), their research findings indicated that the kinds of reading, writing, and analytical tasks workers perform routinely are different from those students are taught in schools or in general adult literacy programs. To assure that students can adapt to the changing nature of the workplace, curriculum revitalization efforts in academic and vocational education must address several components. It appears imperative that secondary and post-secondary vocational programs meet the fundamental responsibilities of public education to ensure that all students attain appropriate levels of achievement in areas fundamental to their continuing development and appropriate to either immediate employment or advanced education in preparation for later employment.

Many researchers in vocational education have concluded that there is little information available on the impact of vocational education as a means of enhancing academic learning experiences. These researchers have noted that further research needs to be conducted to determine how and to what extent vocational education courses can be instrumental in the development of basic skills in the allied academic disciplines.

In view of the current federal legislative mandates, it seems that vocational education needs to do much more in integrating its curricula with general education. In the past, vocational education has

developed its programs in isolation from general education and tended to concentrate on teaching occupational specific tasks. Lotto (1988) concluded from her research that students generally enroll in vocational education because they like it and they rated it near the bottom in difficulty. Vocational education was not emphasizing basic academic skills as noted by Lotto:

> "Employers are generally positive toward vocational education as a provider of specific occupational skills. They are not well satisfied with the basic skill proficiencies and general trainability of young workers in occupations not requiring a four-year degree."

It was from research reports similar to the above, along with the emphasis provided by federal vocational legislation that spurred state agencies and other leaders in vocational education to seek out and develop ways to enhance the teaching of basic academic skills. Since states have the major constitutional responsibility for providing public education in the U.S., curriculum development and innovation are often spearheaded by state departments of education. Interstate curricula consortia have been prominent in vocational education for several years (e.g. Vocational Technical Education Consortium of States, National Network Curriculum Coordination in Vocational and Technical Education). Another such effort is the consortium of 46

state and provincial vocational education agencies which comprise the Agency for Instructional Technology (AIT), a private, non-profit organization in Bloomington, Indiana. AIT was established in 1973 to strengthen education through technology and is governed by a Board of Directors representing American-Canadian education.

One more non-profit public service organization which operates through a consortium of state agencies is the Center for Occupational Research and Development (CORD) located at Waco, Texas. Since its inception, CORD has developed curricula for new and emerging technologies.

Applied Academic Curricula

During the mid 1980s AIT and CORD pursued the development of applied academic materials for secondary and postsecondary vocational students. Their first notable effort in the area of vocational education was the development of Principles of Technology (PT) curriculum materials. PT has proven to be very effective in bridging vocational and academic program areas.

The genesis of the idea to develop Applied Communication and Applied Mathematics materials, by and large, resulted from the development and implementation of PT. Beginning in April, 1985, discussions with state directors of vocational education and AIT and CORD personnel clearly indicated that additional curriculum materials in applied communication and mathematics were high priorities. AIT elected to develop a prospectus for a course in applied communication (Agency for Instructional Technology, 1986). CORD committed to develop a one-year set of materials in applied mathematics (Center for Occupational Research and Development, 1989).

In December, 1986, AIT undertook the task of developing an Applied Communication curriculum for its member state and provinces. Applied Communication is a set of competency-based learning materials designed to help students develop and refine job-related communication skills. The learning materials are divided into 15 instructional modules each of which contain 10 lessons and two video programs. The modules can be used individually or all 15 can be used

in sequential order as the basis for a year-long course. Any of the modules or lessons can also be integrated in vocational or academic courses where appropriate. The format of each curriculum module consists of a teacher's guide, transparency masters, videos, and a student work text. While Applied Communication was developed primarily for high school students, it has been used in postsecondary and adult programs.

Similarly, CORD has developed Applied Mathematics materials. Applied Mathematics focuses on arithmetic operations, problem-solving techniques, estimation of answers, measurement skills, geometry, data handling, simple statistics, and the use of algebraic formulas to solve problems in work settings. The material is presented in 25 units with each unit divided into six subunits which are called activity sessions. Applied Mathematics follows the applications approach to learning which is used in the Principles of Technology and Applied Communication materials.

Nature of the Evaluation Endeavor

Research Goal: The primary goal of this research effort was to **determine the effectiveness of Applied Academics curriculum materials in integrating academics and boosting academic achievement and occupational preparation in secondary schools.** With up-to-date findings regarding the use of Applied Academic curriculum materials, educators can make the appropriate adjustments to effect qualitative improvements in the secondary schools.

Project Objectives: The overall purpose of this project was to assess the student and instructional program outcomes which resulted from implementation of these nationally developed Applied Academic curriculum packages, Applied Communication and Applied Mathematics. As these materials were implemented and used in various ways by schools and individual teachers in Indiana, this study assessed the changes in basic academic skills in mathematics and communications. The outcomes of this assessment project will report the impact Applied Communication and Applied Mathematics had on:

a. the occupational and communication/mathematics skills, knowledge, and attitudes (competencies) of enrolled students;

b. the enrolled students' abilities to demonstrate effective application of communication/mathematics competencies to the workplace and their personal lives;

c. teachers' abilities to demonstrate to students practical useful applications of communication/mathematics competencies to the workplace and their personal lives;

d. collaboration efforts of academic and vocational teachers to assure relevance and practical application of communication/mathematics instruction to a variety of occupations;

e. the enrolled students' (experimental and comparison) background and change in attitude toward communication/mathematics competency development;

f. the enrolled students' (experimental and comparison) degree of change in academic achievement in communication/mathematics competencies; and

g. communication and cooperation between English language arts/mathematics and vocational teachers and administrators.

The evaluation efforts have also gathered information with regard to (1) the strengths and weakness of Applied Communication/Applied Mathematics instructional materials, and (2) participating teachers' background and changes in attitudes regarding instruction, teaching, and students' achievement related to applied communication/mathematics in general and the AIT/CORD Applied Communication/Mathematics instructional materials specifically.

Sample Selection

Selection of the 1990-91 Applied Communication and Applied Mathematics demonstration sites was coordinated through the Indiana Department of Education, Center for School Improvement and Performance, Vocational Education Section. The Indiana Department of Education utilized Carl D. Perkins Vocational Education funds to implement ten Applied Mathematics and eight Applied Communication secondary level demonstration sites throughout the state for the 1990-91 school year. These sites were established as the result of a competitive Request for Proposals funded in the amounts of $2,100 to $2,600 per site for Applied Communication and $3,100 to $3,800 per site for Applied Mathematics. Some of the demonstration sites had been involved in the use of the Applied Academic Curricula since its development and pilot testing; other sites were involved with the materials for the first time this year.

The Applied Mathematics demonstrations sites had five area vocational schools and five comprehensive high schools having a total of 234 students participating in the experimental mathematics program. The 234 students included: 64 females, 170 males, 88 freshmen, 36 sophomores, 54 juniors, and 56 seniors. Of the 234 students, 103 were enrolled in a vocational education program, and the remaining 131 were not in a vocational program. An additional 118 students were enrolled in General Math classes at six sites and served as the control group.

The Applied Communication demonstration sites had four area vocational schools and four comprehensive high schools having a total of 377 students participating in the experimental language arts program. The 377 students included: 152 females, 225 males, 9

freshmen, 82 sophomores, 41 juniors, and 225 seniors. Of the 377 students, 261 were enrolled in a vocational education program and 116 were not in a vocational program.

Refer to Appendix A for a more detailed description of the demonstration sites.

Methodology

This assessment project built upon the efforts which were funded by the National Center for Research in Vocational Education (NCRVE), Berkeley, California. Through the NCRVE project, data collection instruments were developed and pilot tested during the 1989-90 school year in Illinois. These instruments were revised, reprinted and disseminated through inservice workshops to identified experimental sites in Indiana in September 1990. The sites were selected by Indiana Department of Education (IDOE) personnel using predetermined criteria for selection. Comparison classes were identified at most Applied Mathematics sites to use as control groups. One round of on-site visits were made in September and October 1990 to most schools participating in the study to observe the use of the materials and answer questions and concerns from the teachers and/or administrators. The participating teachers gave pre- and post-tests as they used the Applied materials. The data was collected by IDOE personnel for analysis. NCRVE funding for this research effort ended December 31, 1990.

Students in the 9th, 10th, 11th, and 12th grades in the selected schools using the Applied Academic materials along with their comparison classes were tested. The instructors used the materials in both academic and vocational settings.

Instrument Design: The instruments developed to collect demographic data on students, teachers, and school districts; information concerning participant expectations and outcomes; educational background of students, and teachers are as follows:

1. Teacher Questionnaire Survey Form
2. Student Questionnaire Survey Form

The instruments used to collect information on the teachers' perception of the applied materials as they used the modules/units are as follows:

1. Teachers' Evaluation of Applied Communications
2. Teachers' Evaluation of Applied Mathematics

The instruments used to collect quantitative data on student outcomes are as follows:

1. Applied Communications Assessment Booklets - 20 criterion-referenced, multiple-choice test questions were developed for Modules one through fifteen and printed in booklet form.

2. Mathematics Achievement Assessment Booklet - 63 norm-referenced, multiple-choice test questions were identified from the open category of test bank items which were prepared by the Illinois State Board of Education and the Mathematics Assessment Advisory Committee to assess student achievement in the following state goals for learning: computation, ratios and percentages, measurement, algebra, geometry, data collection and analysis, and estimation. These goals (outcomes) were matched to the outcomes of the Applied Mathematics materials.

The Applied Communications criterion referenced assessment booklets were disseminated during the September 1990 Workshop. The participants, at the selected pilot sites, used assessment items to pre-test and post-test each Module/Unit they taught between September 1990 and May 1991. The participants were provided with summary answer sheets for the teachers to use to record students' scores. The participants collected and returned the completed answer sheets to the project staff for data entry and analysis.

The Mathematics Achievement test Booklets were disseminated to the 10 selected sites in September 1990. The participants were provided with instructions and computer scored answer sheets to use during the administration of the test. This test was used as a pre-test and post-test for students using the Applied Mathematics materials and their comparison groups. The pre-test was administered in September or October 1990. The post-test was administered in May 1991. The test was administered to approximately 230 students, some of which were in the CORD Applied Mathematics courses and others were in traditional mathematics courses. The project staff worked with an Assessment Consultant from the Student Assessment Section, Illinois State Board of Education, during the conduct of this data collection.

Limitations

Due to the nature of the selection of demonstration sites, the results should not be construed as being generalizable or representative of all schools, students or programs in Indiana. In most cases, teachers were selected on a competitive basis because of strong demand to participate as a demonstration site. Comparison classes were matched as uniformly as possible on selected variables, given the limited resources available, to the experimental classes when comparing results.

Findings

SAS statistical programs were developed to score the student pre- and post-test data so statistical analyses could be conducted among the selected variables. Additional qualitative data were also obtained from on-site visits, teacher notes, personal interviews, and small group sessions at four statewide inservice workshops on Applied Academics.

The researchers are continuing to analyze data on Applied Academic materials. The findings discussed in this report will be restricted to the statewide student pre- and post-test results from Indiana and the teachers who completed the survey forms. The limited number of teacher respondents in Applied Communication and Applied Mathematics restricts the analysis which can be done. However, these teachers did thoroughly review and critique the materials and their opinions are worthy of consideration and do provide insight into there use in various settings. As a way to build a larger response group, these data collection instruments have been disseminated to a number of other states for use. As researchers in other states analyze and summarize their data, the researchers will attempt to compare results from these various efforts to strengthen the findings and conclusions.

Applied Mathematics

The data summarized in this section consists of the results from teacher and student surveys and the pre- and post-testing of the norm-referenced mathematics test. The test questions were assembled from a test bank which was developed by the Illinois State Board of Education. These 63 questions were selected so the test would address the Illinois goals in mathematics. The seven goal statements identified in Figure 1 were reviewed by the mathematics teachers participating in the study and deemed appropriate for use in Indiana. In other words, the teachers felt that the goals identified general foundation areas which were appropriate to the outcomes used in their mathematic programs.

FIGURE 1

STATE GOALS IN MATHEMATICS

GOAL 1:

As a result of their schooling, students will be able to perform the computations of addition, subtraction, multiplication, and division using whole numbers, integers, fractions, and decimals.

GOAL 2:

As a result of their schooling, students will be able to understand and use ratios and percentages.

GOAL 3:

As a result of their schooling, students will be able to make and use measurements, including those of area and volume.

GOAL 4:

As a result of their schooling, students will be able to identify, analyze, and solve problems using algebraic equations, inequalities, functions, and their graphs.

GOAL 5:

As a result of their schooling, students will be able to understand and apply geometric concepts and relations in a variety of forms.

GOAL 6:

As a result of their schooling, students will be able to understand and use methods of data collection and analysis, including tables, charts, and comparisons.

GOAL 7:

As a result of their schooling, students will be able to use mathematics skills to estimate, approximate, and predict outcomes and to judge reasonableness of results.

The outcomes for each of the 22 Units in Applied Mathematics have also been matched to these seven goals. This matching of outcomes allowed the researchers to pull out more detailed information concerning the changes in test scores and the Applied Mathematics Units taught.

As shown in Table 1, both the Control and Experimental Groups reported gains from pre- to post-testing, 3.02 and 7.06 respectfully. As noted, the Applied Mathematics (experimental) group had more than twice the gain as the Control group.

Table 2 shows that the Applied Mathematics group out performed the Control group in all but one of the seven Goals. That Goal was Goal 1, which emphasizes computations of additions, substraction, multiplication, and division.

Mathematics Achievement Assessment - Indiana

Mean Test Scores for Control Group

	Pre-test (N = 158)	Post-test (N = 95)	Change
Group	45.20	48.22	+ 3.02
Goals			
1	44.28	48.40	+ 4.12
2	45.28	39.80	- 5.48
3	34.86	37.60	+ 2.74
4	35.00	42.60	+ 7.60
5	51.28	56.40	+ 5.12
6	62.00	65.20	+ 3.20
7	43.71	47.60	+ 3.89

Mean Test Scores for Applied Mathematics Group

	Pre-test (N = 280)	Post-test (N = 174)	Change
Group	48.42	55.48	7.06
Goals			
1	49.55	51.75	+ 2.2
2	45.11	51.50	+ 6.39
3	39.33	48.50	+ 9.17
4	41.78	51.62	+ 9.84
5	50.22	60.50	+ 10.28
6	61.11	68.25	+ 7.14
7	51.88	56.25	+ 4.37

Math Achievement
Indiana Percent Change

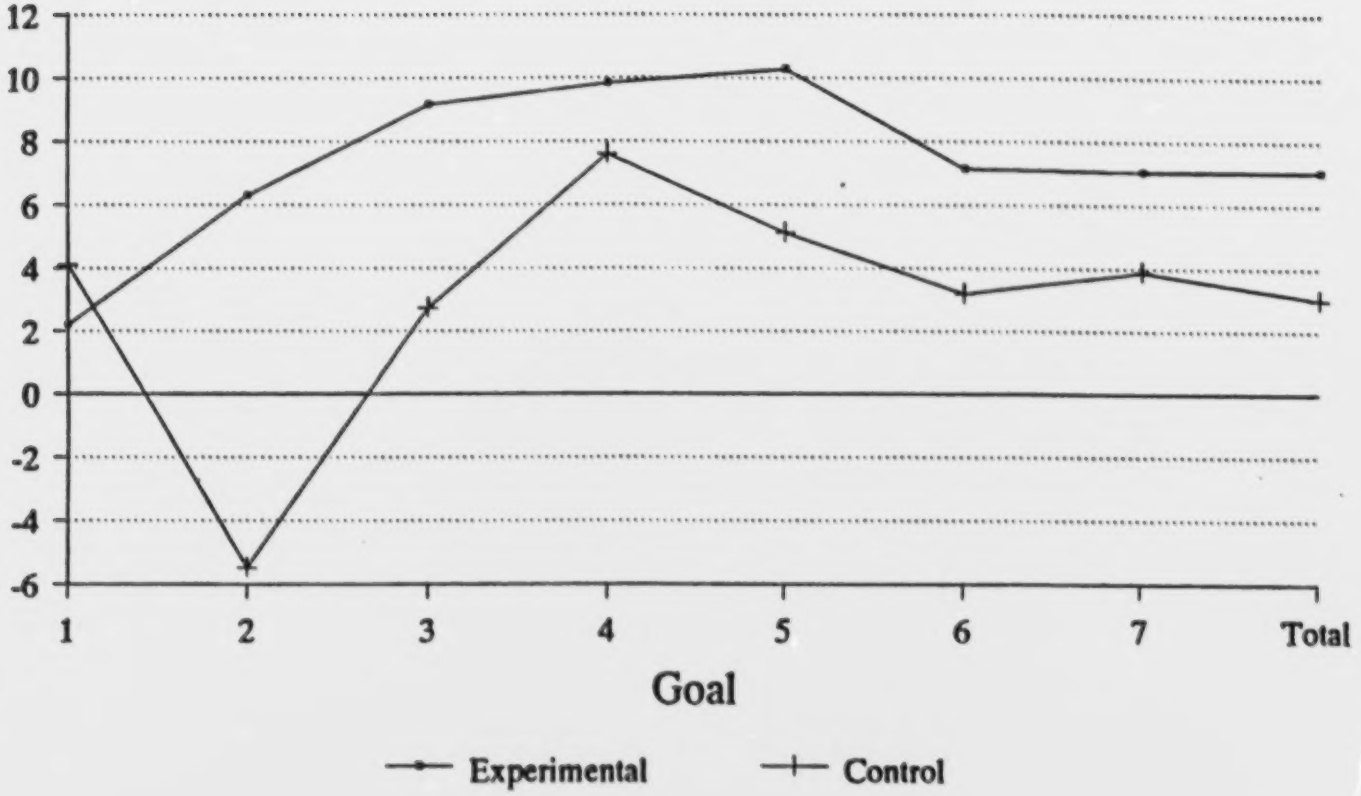

TABLE 2

If one considers a gain score of 5 percent or more as significant, then the Applied Mathematics Group had statistically significant gains in five of the seven Goals and the Control Group in two of the seven Goals. The Control Group reported the greatest gain (7.60) in Goal 4; Identify, analyze, and solve problems using algebraic equations, inequalities, functions, and their graphs. It should be noted that the Applied Mathematics Group gained 9.84 points on this Goal.

The Applied Mathematics Group reported their greatest gain (10.22) on Goal 5; Understand and apply geometric concepts and relations in a variety of forms. The Control group gained 5.12 on Goal 5.

When the students were asked, "How do you rate yourself on the mathematics courses you've taken so far in elementary, junior and high school?", fifty-six percent rated themselves between a B and C. They also reported that they had taken an average of three semesters of mathematics since starting high school. Seventy-three percent of the students reported that their mathematics teachers assigned homework and of that group, almost 50% said they spent one half hour or less and 40% reported spending one to two hours on mathematics homework on an average school night. Over four out of five students said that they felt good math skills were important to future job success. Eighty-eight percent indicated that they understood the ways math skills are used in the workplace. Refer to Appendix B for a more complete summary of student information.

Table 3

Selected Student Data on Mathematics
(Combined results from Experimental and Control Groups)
(N = 559)

- How do you rate yourself on the mathematics courses you've taken so far in elementary, junior and high school?

	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
%	3	2	6	12	12	14	18	15	6	7	5

- Does (or did) your mathematics teacher usually assign homework at least twice per week?

Yes	73%
No	27%

- About how much time do (did) you spend on mathematics homework on an average school night?

Usually do (did) not do	10%
1/2 hour or less	49%
1 hour	35%
2 hours	5%
More than two hours	1%

- I was encouraged to enroll in the more difficult mathematics courses in the future.

Strongly Disagree	32%
Somewhat Disagree	29%
Somewhat Agree	27%
Strongly Agree	12%

- I feel that good mathematics skills will be important in my future career/occupation.

Strongly Disagree	5%
Somewhat Disagree	12%
Somewhat Agree	39%
Strongly Agree	44%

- My math teacher stressed the importance of math skills for future job success.

Strongly Disagree	18%
Somewhat Disagree	30%
Somewhat Agree	32%
Strongly Agree	20%

- I understand the ways math skills are used in the workplace.

Strongly Disagree	4%
Somewhat Disagree	8%
Somewhat Agree	45%
Strongly Agree	43%

Teachers were asked to evaluate each of the Applied Mathematics Units they taught. There were five to eight teachers who completed these unit evaluations. The respondents reported spending ten or more days teaching each unit and they covered at least five of the six sessions. Each unit topic was considered to be "Somewhat to Very Important" by all the respondents. Almost all the units were considered to be "About Right" in the level of difficulty. The respondents felt that the students were actively engaged in learning activities 75% or more of the instructional time when using Applied Mathematics Units. The teaching methods which were most emphasized as compared to other courses taught were (a) conference, discussion procedure in problem-solving, (b) visual aids, and (c) laboratory activities. Overall, when comparing Applied Mathematics materials to traditional materials and methods of teaching, the respondents felt Applied Mathematics was "Good or Very Good". For the most part, teachers did not collaborate with other teachers when using the applied mathematics materials, but when asked if vocational and academic teachers should meet and work together to maximize student learning, the majority felt they should. Refer to Appendix C for a more detailed review of each Applied Mathematic unit as reviewed by the respondents.

Applied Communications

The data summarized in this section on the Applied Communication Modules consists of the results from teacher surveys and the pre- and post-testing of the criterion-referenced module tests. The six goals identified in Figure 2 were developed by the Illinois State Board of Education. These six goal statements were reviewed by the Applied Communication teachers for relevancy to their language arts programs in Indiana and determined to be appropriate proficiency statements. These six proficiency statements were matched to the lesson content objectives in each of the 15 modules.

STATE GOALS FOR LEARNING IN LANGUAGE ARTS

GOAL 1:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO READ, COMPREHEND, INTERPRET, EVALUATE AND USE WRITTEN MATERIALS.

GOAL 2:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO LISTEN CRITICALLY AND ANALYTICALLY.

GOAL 3:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO WRITE STANDARD ENGLISH IN A GRAMMATICAL, WELL-ORGANIZED AND COHERENT MANNER FOR A VARIETY OF PURPOSES.

GOAL 4:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO USE SPOKEN LANGUAGE EFFECTIVELY IN FORMAL AND INFORMAL SITUATIONS TO COMMUNICATE IDEAS AND INFORMATION AND TO ASK AND ANSWER QUESTIONS;

GOAL 5:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO UNDERSTAND THE VARIOUS FORMS OF SIGNIFICANT LITERATURE REPRESENTATIVE OF DIFFERENT CULTURES, ERAS, AND IDEAS.

GOAL 6:

AS A RESULT OF THE SCHOOLING, STUDENTS WILL BE ABLE TO UNDERSTAND HOW AND WHY LANGUAGE FUNCTIONS AND EVOLVES.

State Goals for Learning in Language Arts

As a result of their schooling, students will be able to:	Applied Communication Modules Tested in Indiana
1. Read, comprehend, interpret, evaluate and use written material;	1, 2, 3, 4, 7
2. Listen critically and analytically;	1, 2, 3, 6, 12
3. Write standard English in a grammatical, well-organized and coherent manner for a variety of purposes;	1, 2, 3, 7, 9
4. Use spoken language effectively in formal and informal situations to communicate ideas and information and to ask and answer questions;	1, 3, 6, 7, 9, 12
5. Understand the various forms of significant literature representative of different cultures, eras, and ideas;	
6. Understand how and why language functions and evolves.	3

This matching of content objectives to the six proficiency statements allowed the researchers to pull out more detailed information concerning student achievement of identified outcomes as related to the Applied Communication modules taught.

As shown in Table 4, the students reported an overall gain of 17 percent from pre- to post-testing. This would include skill areas in reading, writing, speaking, and listening.

TABLE 4

1990-1991 Indiana
Applied Communication
Criterion Referenced
Pre- and Post-Test Scores

Module #	N	% Pre-test	% Post-test	% Change
1	Sites = 3 n = 63	59	69	+10
2	Sites = 3 n = 69	64	71	+7
3	Sites = 7 n =147	51	76	+25
4	Sites = 3 n = 66	61	79	+18
6	Sites = 6 n =126	63	82	+19
7	Sites = 6 n =132	60	76	+16
9	Sites = 5 n =105	56	76	+20
12	Sites = 8 n =168	60	77	+17
Total	Sites = 8 n =876	59	76	+17

Positive gains were recorded in each of the 8 modules tested. The gains ranged from seven percent in Module 2, to 25 percent in Module 3.

When students were asked, "How do you rate yourself on English courses you've taken so far in elementary, junior and high school?", sixty-five percent rated themselves between a B and a C and reported having an average of 4 semesters of English since starting high school. Seventy-seven percent indicated that their English teacher assigned homework at least twice per week. Seventy-two percent indicated that they spent one half hour or less on English homework on an average school night. Eighty-seven percent reported that they felt that good communication skills will be important in their future career/occupation. Eighty-eight percent said they understood ways in which communication skills are used in various jobs. More than sixty percent felt they were "Good" or "Excellent" readers. However, less than half thought they were "Good" or "Excellent" writers, speakers, or listeners.

Table 5

Selected Student Data On Communication
(Combined results from Experimental and Control Groups)
(N = 559)

- How do you rate yourself on the English courses you've taken so far in elementary, junior and high school?

	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
%	2	2	5	11	8	20	26	12	6	6	2

- Does (or did) your English teacher usually assign homework at least twice per week?

Yes	77%
No	23%

- About how much time do (did) you usually spent on English homework on an average school night?

Usually do (did) not do	12%
1/2 hour or less	60%
1 hour	25%
2 hours	2%
More than 2 hours	1%

- I was encouraged to enroll in the more difficult English/communications courses in the future.

Strongly Disagree	35%
Somewhat Disagree	29%
Somewhat Agree	31%
Strongly Agree	5%

- I feel that good communication skills will be important in my future career/occupation.

Strongly Disagree	5%
Somewhat Disagree	8%
Somewhat Agree	32%
Strongly Agree	55%

- My English teacher stressed the importance of communication skills for future job success.

Strongly Disagree	7%
Somewhat Disagree	17%
Somewhat Agree	36%
Strongly Agree	40%

- I understand ways in which communication skills are used in various jobs.

Strongly Disagree	5%
Somewhat Disagree	7%
Somewhat Agree	48%
Strongly Agree	40%

- Students were asked to rate themselves as a:

	Have Problems	Fair	Good	Excellent
a. reader	7%	29%	44%	20%
b. writer	13%	41%	37%	9%
c. speaker	22%	40%	30%	8%
d. listener	9%	29%	40%	22%

Teachers were asked to complete a module evaluation for each one that they taught. Most modules were evaluated by four to eight teachers, although some modules had fewer teachers who reported their evaluation. The responding teachers taught seven to ten of the lessons contained in each module and they generally spent from nine to 13 days on each module. This indicates that the respondents spent a significant amount of class time on each one and can provide an opinion which has some validity. The summary across Applied Communication modules is more difficult due to the differing topics of each module. Therefore, some modules had close agreement and in others, the teachers were varied in their opinions. When asked if this was a topic they would normally include in their course of study, no module got a 100% agreement or disagreement, the range generally fell between 33% and 80% yes. Most all teachers agreed that these topics were "Somewhat to Very Important" for vocational students to master. For the most part, teachers felt that the modules were at about the right level of difficulty, but again, some said they were too easy and others said they were to difficult. Most teachers did not consult with other teachers when teaching the modules. When asked about the percent of instructional time the students were actively engaged in learning activities the estimate ranged from 45% to 95%, depending on the individual module and teacher. When asked to indicate the amount of emphasis they placed on selected teaching methods, when using the Applied Communication modules as compared to other courses they taught, most reported; (a) conference, discussion procedure in problem-solving, (b) visual aids, (c) demonstrations, and (d) laboratory exercises. Refer to Appendix D for a more detailed review of each Applied Communication module.

General Findings and Demographics

According to AIT and CORD the applied academic materials were developed for students in the two middle quartiles and who are not in the "college Prep" track. As reported above, most of the students participating in this study can be placed within these quartile ranges. The developing agencies indicate that the materials can be used in a "new" class or infused in existing courses. When students were asked, "In which type of English course(s) are you currently enrolled this semester? (circle 1 or more)", they responded:

Remedial	10%
General	48%
College Preparatory	9%
Advanced Placement	14%
Applied Communications	17%
Other	15%

When asked the same question about mathematics, they responded:

General, Business, Consumer Math	52%
Pre-Algebra	3%
Algebra I	1%
Geometry	1%
Algebra II	2%
Trigonometry	0%
Applied Mathematics	11%
Other	4%

The juniors and seniors were asked to respond to selected questions concerning their future plans and opinions of their schooling thus far.

TABLE 6

SELECTED STUDENT DEMOGRAPHIC DATA
(Combined Results from Experimental and Control Groups)
(N = 559)

- What do you plan to do or what did you do immediately after high school?

Enroll(ed) in a community college	15%
Enroll(ed) in a 4-year college	14%
Enroll(ed) in trade or technical sch	26%
Join(ed) the military	7%
Get/Got a job	31%
Something else	7%

- If I could, I would change my high school experience by:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Studying more	4%	10%	48%	38%
b. Take more voc.	8%	28%	46%	18%
c. Take higher-level acad. courses	10%	38%	32%	20%
d. Do nothing different	20%	6%	24%	41%

- In general, how satisfied are you with the kind of help you received in selecting the school courses you have taken?

Very dissatisfied	6%
Dissatisfied	14%
Satisfied	68%
Very Satisfied	12%

About one half of the schools have not started a new class or classes for the applied academic materials, but have infused them into existing courses as appropriate. One Applied Communication teacher reported that they offered a one-semester elective course in Applied Communications and they covered seven different modules. However, "All the modules were supplemented by outside materials and assignments. We did only seven modules simply because with all the other things I had them doing, that is all we had time for." This instructor probably best summarizes the overall opinion about the Applied Communication materials by stating;

"Overall, I was pleased with the way the class went. There were many good assignments in the modules, but also many lessons which I considered too easy or unnecessary.....All the students indicated through their own written assessments at the end of the course that they thought it was a good and valuable course.....We plan on continuing to offer the course in the future. I plan on eventually trying all the modules."

SUMMARY OF COMMENTS AND OBSERVATIONS FROM APPLIED MATHEMATICS DEMONSTRATION SITES:

Students seem to like videos. Videos are to create interest, they are not intended to be instructional. Videos could be used in all basic math, 1st year algebra & geometry courses to show math's practical application. Use a variety of student groupings to solve problems, frequently assign team grades rather than individual grades. Need to supplement content with a little more drill work. Important to have scientific calculators. Too many units to teach in one year - 18 units seems to be the maximum you can cover in one year. Majority of students like using the calculator. Student comments, "I like learning this way, it makes sense." Teacher comment, "I think this is a good program; however, I'm concerned that it is not designed for the freshman level."

Advantages - Students will work alone at own pace. Students will now read and try to do the story problems - even really weak students will read. Provides opportunity for all levels of students to be successful. Teamwork and cooperative learning is emphasized. Students really enjoy making graphs and coloring them in, and making floor plans and measuring.

Disadvantages - Worktexts can't go home. Requires a lot of photocopying if you assign homework. Logistics of handing out equipment and supplies. Inconsistency of easy and hard problems within the A, B, C level of difficulty categories. Must have scientific calculators to do homework.

SUMMARY OF COMMENTS AND OBSERVATIONS FROM APPLIED COMMUNICATION DEMONSTRATION SITES:

Need worktext for every student. Need time prior to opening of school to review videos and preview materials prior to teaching. Students laugh at the videos. Probably should implement prior to senior year. Need storage area for the instructional materials. Students seem to like the course because they get out of the standard English course and leave the high school to walk over to the career center. Videos are fake, make them more realistic. Basically the students like the videos even when the acting is poor. The course is more fun than most English, it is activity oriented.

Conclusions

This report summarizes the evaluation findings from the Indiana Department of Education funded applied academic projects (Applied Communication and Applied Mathematics). This evaluation included a summary of student and teacher data regarding these materials.

The settings for the pilot sites were urban and rural, and included comprehensive high schools and vocational centers. Data were compiled from eight Applied Mathematics teachers and nine Applied Communication teachers. Responses from 559 students were used to generate the student information.

The data indicates that the Applied Mathematics curriculum materials enable students to perform at higher academic levels across a broader range of proficiency areas in mathematics than the traditional materials being used in comparison classes.

The Applied Mathematics curriculum will enhance student performance in areas identified as essential by the NCTM. These results are very similar to those found in Illinois during the 1989-90 school year.

The data indicates that the Applied Communication curriculum materials enable students to perform at higher academic levels across a broad range of proficiency areas in language arts.

In general, the teachers and students felt that the applied materials were valuable, and were developed at the appropriate level of difficulty. The instructors liked to pick and choose from the Applied Communication materials and use them as a supplement, rather than as the primary text for the course. However, the Applied Mathematics

materials are more commonly used as a primary resource. About 50% of the schools implemented a new "applied" course, the others fit the materials into an existing course.

The teachers indicated that the applied materials created an opportunity for them to use a greater variety of teaching methods as compared to other courses they taught. Some of those methods were the conference, discussion procedure in problem-solving, visual aids, demonstrations, and laboratory exercises. Overall, the teachers rated the applied academic materials as "Good or Very Good" and that the students were actively engaged in learning activities for the majority of the instructional time.

By the end of the school year, most students felt that they had a sound grasp of the occupational and communication/mathematics skills, knowledge, and attitudes needed for the workplace and could adequately demonstrate them.

There was not a lot of evidence to support enhanced collaboration between vocational and academic teachers beyond what they had been doing in previous years and with other courses. Their teaching methods changed, but the teachers continued to pretty much operate under the same system. The teachers reported that more collaboration would be desirable, but these curricula materials, of and by themselves, did not bring about a high level of "integration" in these sites.

Additional evaluation needs to be completed on Applied Communication and Applied Mathematics materials to more accurately define the program and student characteristics which comprise the user population groups. These findings need to be compared to research in other states which used similar instruments and procedures to create a larger data base from which results can be analyzed.

APPENDIX A
DESCRIPTION OF SITES

APPLIED MATHEMATIC DEMONSTRATION SITE DESCRIPTION

J.E. Light Career Center, Indianapolis - Applied Mathematics is infused as the course content for General Math 3 & 4. General Math 3 & 4 are separate stand alone math courses, offered for math credit, and taught by a licensed math teacher. Targeted enrolles are students (some vocational and some non-vocational) who had not previously been successful in math. A General Math class at North Central High School is serving as the control group. Applied Mathematics instructional content is also infused into some vocational programs. Upon request by vocational teachers, selected Applied Mathematics units are being integrated into vocational programs to enhance specific math skills of vocational program enrollees. No math credit is awarded when only a few selected math units are integrated into a vocational program. Dr. Eldon Horton, Vocational Director is the contact person.

Blue River Vocational Technical Center, Shelbyville - Applied Mathematics instruction is being infused 1 to 3 hours weekly in the vocational Building Trades and Machine Trades programs to enhance the students' math skills. Applied Mathematics instruction is being provided by vocational Building Trades and Machine Trades teachers, no math credit is being given. Mr. Robert Hoffman, Vocational Director is the project contact person.

Delphi High School, Delphi - General Math (9th grade) curriculum is being replaced with Applied Mathematics instructional content. General Math course is being taught by a licensed mathematics teacher and math credit is being awarded. A separate General Math class is serving as the control group. Mr. Robert Tyner, Mathematics Department Head is the contact person.

Elkhart Memorial High School, Elkhart - Math 1 & 2 (9th grade) curriculum is being replaced with Applied Mathematics instructional content. Math 1 & 2 courses are being taught by a licensed mathematics teacher and math credit is being awarded. Mr. Jim Mayes, Math Department Head is the project contact persons.

Elkhart Area Career Center, Elkhart - Applied Mathematics is taught as separate math courses, one in the morning and one in the afternoon, for vocational students needing math credit. Students are pulled out of their 3-hour vocational program for 1 hour daily. Students receives 1 math credit and 2 vocational credits for the 3-hour block of time. Applied Mathematics is taught by licensed math teachers. Mr. Clyde Riley, Program Director is the project contact person.

New Castle Area Vocational School, New Castle - Applied Mathematics instruction is infused 3 hours weekly (M, W, & F) into the vocational welding program. The Applied Mathematics instruction is provided by a licensed math teacher but no math credit is given. Additionally, the Shop Math curriculum is being replaced with the Applied Mathematics instructional content. Shop Math is taught by a licensed math teacher, and math credit is awarded. Mrs. Beverly Hankenhoff, Vocational Director is the project contact person.

Seymour High School, Seymour - Consumer Math (9-12) curriculum is being replaced with the Applied Mathematics instructional content. Consumer Math course is being taught by a licensed math teacher and math credit is given. A separate Consumer Math class is serving as the control group. Mr. Jerry Finley, Curriculum Director is the project contact person.

South Vermillion High School, Clinton - Math 1 (9th grade) curriculum is being replaced with the Applied Mathematics instructional content. Math 1 course is being taught by a licensed math teacher, and math credit is given. A separate Math 1 class is serving as the control group. Mr. Jerry Hawkins, Vocational Administrator is the project contact person.

Upper Wabash Vocational School, Wabash - Applied Mathematics course is offered to juniors and seniors enrolled in vocational programs at the vocational school who need math credit. Students are pulled out of their 3-hour vocational program for 1 hour per day to take Applied Mathematics. Students receive 1 math credit and 2 vocational credits for their 3-hour block of time at the vocational school. Mr. Robert Plunkett, Principal is the contact person.

Wabash High School, Wabash - General Math II (2nd year math) curriculum is being replaced with the Applied Mathematics instruction content. The course is being taught be a licensed math teacher, and math credit is awarded. A separate General Math II class is serving as the control group. Mr. Neal Pedro, Vocational Director is the contact person.

APPLIED COMMUNICATION DEMONSTRATION SITE DESCRIPTIONS

Bedford North Lawrence Area Vocational School, Bedford. - Applied Communication is offered as a stand-alone course for students needing English Credit. The course is being taught by a licensed English teacher who is also a licensed Agriculture teacher. When Applied Communication was listed as a course option, over 169 students signed up, but counselors/administrators cut enrollment down to approximately 25 students. Mr. Don Piper, Vocational Director is the project contact person.

Central Noble High School, Albion - General English 12 curriculum infused the Applied Communication instructional content. General English course is taught by a licensed English teacher and English credit is awarded. Mr. Kenneth Surber, Vocational Director is the contact person.

J. Everett Light Career Center, Indianapolis - Alternative Vocational Education English course infused Applied Communication instructional content. Alternative Vocational Education English targets students who have not previously been successful in English courses. It is taught by a licensed English teacher and is offered for English credit. Dr. Eldon Horton, Vocational Director is the contact person.

McKenzie Career Center and Lawrence Central High School, Indianapolis - Career English courses infused Applied Communication instructional content. Career English is a separate stand along course, offered for English credit, and taught by licensed English teachers. Separate Career English classes are serving as the control group. Mrs. Sue Kemmerer, Special Projects is the contact person.

Seymour High School, Seymour - Applied Communication is offered as a separate stand along course taught by a licensed English teacher for English credit. Target population are students enrolled in a vocational program who have an interest in the Applied Communication course. A separate General English class is serving as the control group. Mr. Jim McCormick, Principal is the contact person.

South Vermillion High School, Clinton - Applied Communication is offered as a separate stand alone course taught by a licensed English teacher for English credit. Target population are students interested in the Applied Communication course. Mr. Jerry Hawkins, Vocational Administrator is the contact person.

APPENDIX B

STUDENT SURVEY DATA

COMPILED STUDENT QUESTIONNAIRE

N = 559
All numbers are in percentage terms
Note: Total may not add to 100% due to rounding and/or no response.

SECTION A

THE FOLLOWING QUESTIONS ASK YOU TO PROVIDE SOME INFORMATION ABOUT YOUR EDUCATIONAL BACKGROUND IN VOCATIONAL, ENGLISH, MATH, AND SCIENCE EDUCATION.

---

1. Please indicate if you have taken 1 or more semesters of coursework (including this semester) in:

	Average # of Semesters
Agriculture (agribusiness, horticulture, etc.)	3
Business Math	2
Business/Office (accounting, bookkeeping, etc.)	2
Computers (intro. to computers)	2
Consumer/Homemaking Education	1
Health Occupations	2
Home Economics Occupations (childcare, food service)	2
Keyboarding (typing I, typing II)	2
Marketing	3
Technical Education/Industrial Occupations (welding, drafting, automotive, etc)	2

2. **Please indicate how you feel about the amount of emphasis your <u>vocational teachers</u> placed on the following activities.**

	More Emphasis Needed	About Right Amount	Less Emphasis Needed
a. Showing how mathematics is used in specific vocational areas	18%	74%	8%
b. Reading and interpreting technical books and manuals	20%	66%	34%
c. Writing technical and service reports, business letters	30%	54%	16%
d. Showing how scientific principles are used in vocational areas	26%	59%	15%
e. Computer skills	48%	40%	12%
f. How to identify and solve problems	20%	68%	12%
g. Teamwork skills.....	23%	62%	15%

3. **Are you taking an English or Communications class this semester?**

Yes 93%

No 7%

4. In which type of English course(s) are you currently enrolled this semester? (CIRCLE 1 OR MORE)

Remedial 10%

General 48%

College Preparatory 9%

Advanced Placement or Honors 14%

Applied or Technical Communications 17%

Other *(Specify)* _____ 15%

5. **Please name the last English and/or Communications course you took.**

Literature	16%
Composition	6%
English	52%
Communication for life	1%
Other	23%

6. **How many semesters of English (including this semester) have you taken since starting high school?**

Average = 4 Semesters

7. **How do you rate yourself on the English courses you've taken so far in elementary, junior and high school?**

A	A-	B+	B	B-	C+	C	C-	D+	D	D-
2%	2%	5%	11%	8%	20%	26%	12%	6%	6%	2%

8. **Does (or did) your English teacher usually assign homework at least twice per week?**

Yes	77%
No	23%

9. **About how much time do (did) you usually spend on English homework on an average school night?**

Usually do(did) not do	12%
1/2 hour or less	60%
1 hour	25%
2 hours	2%
More than 2 hours	1%

10. For each statement below, please indicate how much you agree or disagree

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a. I was encouraged to enroll in the more difficult English/Communications courses in the future	35%	29%	31%	5%
b. I feel that good Communication skills will be important in my future career/occupation	5%	8%	32%	55%
c. My English teacher stressed the importance of communication skills for future job success....	7%	17%	36%	40%
d. I understand ways in which communication skills are used in various jobs.....	5%	7%	48%	40%

11. Please indicate the word(s) that best describe(s) your response to the following questions.

	Have Problems	Fair	Good	Excellent
a. How would you rate yourself as a reader?	7%	29%	44%	20%
b. How would you rate yourself as a writer?	13%	41%	37%	4%
c. How would you rate yourself as a speaker?	22%	40%	30%	8%
d. How would you rate yourself as a listener?	9%	29%	40%	22%

12. Are you taking any Mathematics classes this semester?

Yes	72%
No	29%

13. In which type of Mathematics course are you currently enrolled?

General, Business, or Consumer Mathematics	52%
Pre-Algebra	3%
Algebra I	1%
Geometry	1%
Algebra II	2%
Trigonometry	0%
Pre-Calculus or Algebra III	5%
Calculus	2%
Applied or Technical Mathematics	11%
Other_____	4%

14. Please name the last Mathematics course that you took

Math 1	16%	Geometry	4%
Math 2	5%	Algebra	16%
Math 3	2%	Business Math	8%
Math 4	2%	Other	48%

15. How many semesters of Mathematics (including this semester) have you taken since starting high school?

Average of 3 Semesters

16. How do you rate yourself on the Mathematics courses you've taken so far in elementary, junior and high school?

A	A-	B+	B	B-	C+	C	C-	D+	D	D-
3%	2%	6%	12%	14%	18%	15%	6%	7%	7%	5%

17. Does (or did) your Mathematics teacher usually assign homework at least twice per week?

Yes	73%
No	27%

18. About how much time do (did) you usually spend on mathematics homework on an average school night?

Usually do(did) not do	10%
1/2 hour or less	49%
1 hour	35%
2 hours	5%
More than 2 hours	5%

19. **How much do you agree or disagree with the following statements.**

		Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a.	I was encouraged to enroll in the more difficult Mathematics courses in the future	32%	29%	27%	12%
b.	I feel that good Mathematics skills will be important in my future career/occupation	5%	12%	39%	44%
c.	My math teacher stressed the importance of math skills for future job success	18%	30%	32%	20%
d.	I understand the ways math skills are used in the workplace	4%	8%	45%	43%

20. **Are you taking a Science class this semester?**

Yes 57%

No 43%

21. **In which type of Science course(s) are you currently enrolled this semester?** (CIRCLE 1 OR MORE)

General Science/Earth Science/Life Science Course 33%

Biology 15%

Chemistry 1%

Physics 2%

Principles of Technology (Applied Physics) 2%

Applied Biology/Chemistry 0%

Computer Science 2%

Physiology 2%

Botany 2%

Agricultural Science (Animal, Food, Plant, Soil, etc.) 1%

Other _____ 3%

22. Please name the last Science course you took

Lab Science	13%	Physical Science	15%
Earth Science	14%	Basic Science	3%
General Science	9%	Other	27%
Biology	19%		

23. How many semesters of Science (including this semester) have you taken since starting high school?

Average = 3 Semesters

24. How do you rate yourself on the Science courses you've taken so far in elementary, junior and high school?

A	A-	B+	B	B-	C+	C	C-	D+	D	D-
1%	3%	5%	11%	11%	18%	20%	15%	8%	4%	4%

25. Does (or did) your Science teacher usually assign homework at least twice per week?

Yes 62%

No 38%

26. About how much time do (did) you usually spend on science homework on an average school night?

Usually do(did) not do 9%

1/2 hour or less 56%

1 hour 31%

2 hours 3%

More than 2 hours 5%

27. How much do you agree or disagree with the following statements.

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a. I was encouraged to enroll in the more difficult Science courses in the future	34%	32%	28%	6%
b. I feel that good Science skills will be important in my future career/occupation	22%	32%	30%	16%
c. My Science teacher stresses the importance of science skills for future job success	20%	32%	34%	14%
d. I understand the way science skills are used in the workplace	20%	29%	37%	14%

28.

	# Days
a. About how many days of school have you missed in the last month because of illness or other excused reason?	Average = 3
b. About how many days of school have you missed in the last month because of unexcused reasons?	Average = 3

29. Do you work part-time this semester?

Yes	43%
No	57%

30. On the average, about how many total hours do you work during the school week, that is from Monday through Friday? (Please do not include the hours you work on Saturday or Sunday.)

Average = 16 Hours per Week

31. **Are computers available for you to use at school during the school day?**

Yes 70%

No 30%

32. **How many hours do you work with computers each day?**

	Hours/day
a. As part of a class period?	Average = 1
b. Outside of a class period?	Average = 2

33. **How much time <u>on the average</u> do you spend watching television each evening during the school week?**

<u>Average = 3</u> Hours Each Day

34. **How much do you agree or disagree with the following statements.**

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
a. Most teachers did not expect or encourage me to do well in school	40%	28%	20%	12%
b. Most teachers took time to relate subject content to the real world	10%	20%	43%	27%

35. **What is your student classification?**

a. **<u>Middle/Junior High</u>**

7th grade 0%

8th grade 2%

b. **<u>High School:</u>**

Freshman 32%

Sophomore 16%

Junior 11%

Senior 38%

c. **<u>Beyond High School</u>** 3%

SECTION B

PLEASE ANSWER QUESTIONS 36-39 ONLY IF YOU ARE CURRENTLY CLASSIFIED AS JUNIOR OR SENIOR IN HIGH SCHOOL OR IF YOU ARE BEYOND HIGH SCHOOL.

36. What do you plan to do or what did you do immediately after high school?

Enroll(ed) in a community or junior college	15%
Enroll(ed) in a 4-year college or university	14%
Enroll(ed) in a trade or technical school	26%
Join(ed) the military	7%
Get/got a job	31%
Something else *(Specify)*_____	7%

37. Please indicate the degree to which you agree or disagree with the following statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
If I could, I would change my high school experience by:				
a. Studying more	4%	10%	48%	38%
b. Taking more vocational courses	8%	28%	46%	18%
c. Taking more higher-level academic courses	10%	38%	32%	20%
d. I would not do anything differently	43%	34%	14%	9%
e. Other _____	29%	6%	24%	41%

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38. Please indicate whether <u>you</u> agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I feel confident that my high school education has adequately prepared me to:				
a. Read, understand and apply technical information on the job	4%	12%	62%	22%
b. Write a correct business letter or technical report	6%	20%	58%	16%
c. Calculate the average net income from a year's wages	4%	17%	57%	22%
d. Conduct a scientific experiment to determine how one variable affects another	14%	34%	44%	8%
e. Correctly complete a job application	2%	3%	45%	50%
f. Enter and succeed in a vocational or technical program	8%	8%	52%	32%
g. Enter and succeed in an academic program	9%	30%	48%	13%
h. Identify and solve problems	2%	8%	62%	28%
i. Perform entry-level skills in an occupational field of interest	3%	9%	60%	28%
j. Search for and obtain a good job	3%	7%	48%	42%

39. **Please indicate how much you agree or disagree with the following statements about <u>your</u> high school.**

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. School should have placed more emphasis on mathematics	4%	40%	38%	9%
b. School should have placed more emphasis on reading	1%	30%	54%	15%
c. School should have placed more emphasis on science	10%	52%	33%	5%
d. School should have placed more emphasis on verbal communications skills	4%	18%	48%	30%
e. School should have placed more emphasis on computer skills	3%	22%	50%	25%
f. School should have placed more emphasis on vocational and technical programs	9%	25%	48%	18%
g. School did not offer enough practical work experience	5%	33%	47%	15%
h. School should have provided me with more information on finding employment	6%	34%	44%	16%
i. School should have provided me with more information on continuing my education	5%	39%	35%	20%

40. **Did anyone help you plan which courses you should take in high school?**

Yes	60%
No	40%

41. **When did you receive the most help in planning your high school program of study?**

Before Grade 9	32%
Grade 9	18%
Grade 10	9%
Grade 11	11%
Grade 12	7%
About the same each year	23%

42. Please indicate the degree to which you consulted each person in planning your high school studies.

	Never	Not much	Fair amount	Great deal
a. Guidance Counselor	10%	20%	40%	30%
b. General Academic Teachers	35%	38%	22%	5%
c. Vocational Education Teachers	32%	24%	28%	14%
d. Mother or Stepmother	13%	17%	40%	30%
e. Father or Stepfather	27%	23%	34%	16%
f. Friends/Relatives Same Age	8%	22%	50%	20%

43. In general , how satisfied are you with the kind of help you received in selecting the school courses you have taken?

Very dissatisfied	6%
Dissatisfied	14%
Satisfied	68%
Very satisfied	12%

SECTION C

THE FOLLOWING QUESTIONS ASK YOU TO PROVIDE SOME INFORMATION ABOUT YOURSELF. YOUR RESPONSE TO THESE QUESTIONS WILL HELP US COMPARE AND CONTRAST ALL RESPONDENTS.

44. How old were you on your last birthday? ····· Average = 15 Years

45. Are you male or female? ····· Male ····· 53%
Female ····· 47%

46. Which best describes you? ····· American Indian ····· 3%
Asian-American ····· 1%
Black ····· 13%
Hispanic ····· 1%
White ····· 78%
Other (*Specify*) _____ 4%

47. **What is the highest grade of school your <u>father</u> has completed?**

No formal education	1%
Eighth grade or less	5%
Some high school	23%
High school graduate	39%
Technical/vocational school beyond high school	8%
Some college, no degree	9%
College graduate	10%
Some graduate school, no degree	2%
Graduate/professional degree *(Specify degree and field)*_____	2%

48. **What is the highest grade of school your <u>mother</u> has completed?**

No formal education	1%
Eighth grade or less	3%
Some high school	23%
High school graduate	45%
Technical/vocational school beyond high school	7%
Some college, no degree	9%
College graduate	8%
Some graduate school, no degree	2%
Graduate or professional degree *(Specify degree and field)* _____	2%

49. **How often do the people in your home speak a language other than English?**

Never	85%
Occasionally	12%
Half of the time or more	3%

50. How often does someone from your family ask about your schoolwork?

Almost every day	56%
About once a week	22%
About once a month	8%
Hardly ever or never	14%

51. Does your mother or step-mother work at a job for pay?

Full time	70%
Part time	13%
No	17%

APPENDIX C

EVALUATION OF SELECTED APPLIED MATHEMATICS UNITS

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Getting to Know Your Calculator

UNIT NO.: A

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

*5 Sessions = 20%
6 Sessions = 80%

Average Number of Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	0%
No	80%

Why or Why not?

- Did not use calculators in my class prior to CORD.
- We as a math Dept. feel that it is important to have a grasp on the basics before relying on a calculator. However, this feeling is changing for certain classes.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	80%
Somewhat important	20%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

*Applied Mathematics is presented in 25 units with each unit divided into 6 activity sessions.

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	40%
No	60%

Why or why not?

- Not necessary.
- I wanted to coordinate this unit with what my students' other vocational teachers were teaching.

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	60%
No	40%

Why or why not?

- To coordinate the math text with what is relevant to each student.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 0%
Average = 80%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	50%	25%	25%
b.	Job instruction training in developing manipulative skills....	50%	0%	25%
c.	Visual aids.....	50%	25%	25%
d.	Topical reports.....	0%	50%	50%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	50%	25%	0%
g.	Laboratory activities..	75%	25%	0%
h.	Field trips.....	0%	0%	50%
i.	Lectures.....	25%	50%	25%
j.	Resource speakers.....	0%	0%	75%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	20%
Good	80%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Students found unit easy, but tested poorly - false confidence.
- Very well done.
- The students were pleased to be able to use calculators. It is a good way to begin a course.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Naming Numbers in Different Ways

UNIT NO.: B

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	80%
No	20%

Why or Why not?

- Have always included topics.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	60%
No	40%

Why or why not?

- We ended up making it relevant to general "life-skills".

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	50%
No	50%

Why or why not?

- It depends upon the subject area of the vocational instructor.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 50% - 90%
Average = 71%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	50%	50%	0%
b.	Job instruction training in developing manipulative skills....	25%	25%	50%
c.	Visual aids.....	50%	50%	0%
d.	Topical reports.....	0%	50%	50%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	0%	100%	0%
g.	Laboratory activities..	75%	0%	0%
h.	Field trips.....	0%	0%	50%
i.	Lectures.....	0%	50%	25%
j.	Resource speakers.....	0%	25%	75%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	20%
Good	60%
About the same	20%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- There were several good opportunities to relate this to "real-life".

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Finding Answers with Your Calculator

UNIT NO.: C

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 20%
   6 Sessions = 80%
   Average Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	25%
No	75%

Why or Why not?

- Didn't have scientific calculators.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	80%
Somewhat important	20%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	60%
No	40%

Why or why not?

- Sought out supplemental materials.

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	60%
No	40%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 80% - 90%
Average = 86%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	75%	25%	0%
b.	Job instruction training in developing manipulative skills....	25%	25%	25%
c.	Visual aids.....	50%	50%	0%
d.	Topical reports.....	25%	25%	50%
e.	Student debates.....	0%	25%	75%
f.	Demonstrations.....	25%	75%	0%
g.	Laboratory activities..	75%	25%	0%
h.	Field trips.....	0%	0%	75%
i.	Lectures.....	0%	75%	25%
j.	Resource speakers.....	0%	50%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	60%
Good	40%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- I feel that it is very important to stress these problem solving skills.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Learning Problem-solving Techniques

UNIT NO.: 1

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	25%
No	75%

Why or Why not?

- Not in regular text.
- Problem-solving isn't drilled in our regular textbooks.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	20%
No	80%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	80%
No	20%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 80% - 85%
Average = 81%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	75%	25%	0%
b.	Job instruction training in developing manipulative skills....	25%	50%	25%
c.	Visual aids.....	50%	25%	25%
d.	Topical reports.....	0%	25%	75%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	0%	100%	0%
g.	Laboratory activities..	75%	25%	0%
h.	Field trips.....	0%	25%	75%
i.	Lectures.....	25%	50%	25%
j.	Resource speakers.....	0%	25%	75%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	60%
Good	40%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- A most important unit.
- These problem-solving skills need to be emphasized.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Estimating Answers

UNIT NO.: 2

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	25%
No	75%

Why or Why not?

- Yes, but this book was much more indepth.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	60%
Somewhat important	40%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	80%
Too difficult	20%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	20%
No	80%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	80%
No	20%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 70% - 90%
Average = 81%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	75%	25%	0%
b.	Job instruction training in developing manipulative skills....	25%	25%	50%
c.	Visual aids.....	25%	75%	0%
d.	Topical reports.....	0%	75%	25%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	50%	50%	0%
g.	Laboratory activities..	75%	25%	0%
h.	Field trips.....	0%	25%	50%
i.	Lectures.....	0%	75%	25%
j.	Resource speakers.....	0%	25%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	80%
About the same	20%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Students could not estimate since we spent so much time on using the calculator and getting the exact answer.
- Truncating was confusing and frustrating for some.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Measuring in English and Metric Units

UNIT NO.: 3

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 sessions = 100%
   Average Days Taught = 12

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	100%
No	0%

Why or Why not?

- Not as indepth.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	60%
Too difficult	40%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	20%
No	80%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	80%
No	20%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 70% - 90%
Average = 79%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	75%	25%	0%
b.	Job instruction training in developing manipulative skills....	75%	0%	25%
c.	Visual aids.....	25%	75%	0%
d.	Topical reports.....	0%	75%	25%
e.	Student debates.....	0%	75%	25%
f.	Demonstrations.....	75%	25%	0%
g.	Laboratory activities..	100%	0%	0%
h.	Field trips.....	0%	50%	25%
i.	Lectures.....	0%	75%	25%
j.	Resource speakers.....	0%	50%	25%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	40%
Good	60%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Students found this unit difficult.
- The idea of "roughly" comparing the two systems of measuring was helpful. Unit conversion ratios were difficult for some.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Using Graphs, Charts and Tables

UNIT NO.: 4

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 20%
   6 Sessions = 80%
   Average Days Taught = 11

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	75%
No	25%

Why or Why not?

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	80%
Somewhat important	20%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	20%
No	80%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	80%
No	20%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 70% - 90%
Average = 80%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	75%	25%
b.	Job instruction training in developing manipulative skills....	50%	0%	25%
c.	Visual aids.....	50%	25%	25%
d.	Topical reports.....	0%	75%	25%
e.	Student debates.....	0%	75%	25%
f.	Demonstrations.....	50%	25%	25%
g.	Laboratory activities..	50%	25%	25%
h.	Field trips.....	0%	0%	50%
i.	Lectures.....	0%	50%	50%
j.	Resource speakers.....	0%	25%	25%

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9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	60%
Good	40%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Students liked making graphs.
- They had trouble constructing line graphs. The Acculine did make things easier, however.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Dealing with Data

UNIT NO.: 5

N = 4

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

5 Sessions = 25%
6 Sessions = 75%
Average Days Taught = 12

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	33%
No	66%

Why or Why not?

- Didn't take the time.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	75%
Somewhat important	25%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	25%
No	75%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	75%
No	25%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 75% - 95%
Average = 85%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	33%	67%	0%
b.	Job instruction training in developing manipulative skills....	33%	33%	33%
c.	Visual aids.....	0%	100%	0%
d.	Topical reports.....	0%	67%	33%
e.	Student debates.....	0%	67%	33%
f.	Demonstrations.....	67%	33%	0%
g.	Laboratory activities..	100%	0%	0%
h.	Field trips.....	0%	33%	33%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	33%	33%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	50%
Good	50%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Several seemed to have difficulty with this unit.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Working with Lines and Angles

UNIT NO.: 6

N = 4

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 50%
   6 Sessions = 50%
   Average Days Taught = 10

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	67%
No	33%

Why or Why not?

- First year of teaching math at this level.
- Title of class is Consumer Math.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	25%
Somewhat important	75%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	75%
No	25%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 60% - 80%
Average = 74%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	100%	0%
b.	Job instruction training in developing manipulative skills....	67%	33%	0%
c.	Visual aids.....	33%	67%	0%
d.	Topical reports.....	0%	33%	33%
e.	Student debates.....	0%	33%	33%
f.	Demonstrations.....	33%	0%	33%
g.	Laboratory activities..	100%	0%	0%
h.	Field trips.....	0%	0%	67%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	0%	67%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	25%
Good	75%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Working with Shapes in Two Dimensions

UNIT NO.: 7

N = 6

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

6 Sessions = 100%
Average Days Taught = 13

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	100%
No	0%

Why or Why not?

- First year of teaching math at this level.
- Perimeter and area of basic plane figures part of normal General Math course.
- Normally included in Consumer math curruculum.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	50%
Somewhat important	33%
Not very important	16%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	83%
Too difficult	16%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	16%
No	83%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	33%
No	67%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 54% - 90%
Average = 76%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	40%	60%	0%
b.	Job instruction training in developing manipulative skills....	40%	60%	0%
c.	Visual aids.....	20%	80%	0%
d.	Topical reports.....	0%	33%	0%
e.	Student debates.....	0%	60%	20%
f.	Demonstrations.....	20%	40%	20%
g.	Laboratory activities..	60%	40%	0%
h.	Field trips.....	0%	0%	40%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	20%	40%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	80%
About the same	20%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Exercises very difficult - Most of the information and methodology used in this unit previously covered by me in similar manner. Good video problem. Lab. activities not very good.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Working with Shapes in Three Dimensions

UNIT NO.: 8

N = 5

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 20%
   6 Sessions = 80
   Average Days Taught = 12

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	100%
No	0%

Why or Why not?

- Normal general math topic.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	50%
Somewhat important	25%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	25%
Too difficult	75%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	75%
No	25%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 70% - 85%
Average = 78%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	50%	50%	0%
b.	Job instruction training in developing manipulative skills....	50%	50%	0%
c.	Visual aids.....	50%	50%	0%
d.	Topical reports.....	0%	75%	25%
e.	Student debates.....	25%	50%	25%
f.	Demonstrations.....	50%	50%	0%
g.	Laboratory activities..	50%	50%	0%
h.	Field trips.....	0%	25%	50%
i.	Lectures.....	0%	75%	0%
j.	Resource speakers.....	0%	50%	25%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	75%
About the same	25%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- I felt this was too far over my students level to even consider using this unit.
- Exercises very difficult - Most information and methodology used in this unit previously covered by me in similar manner. Video problem too simple.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Using Ratios and Proportions

UNIT NO.: 9

N = 8

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 12%
   6 Sessions = 88%
   Average Days Taught = 9

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	72%
No	0%

Why or Why not?

- First year of teaching at this level.
- Lot of proportions are included in consumer math.
- Normal general math topic.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	72%
Somewhat important	12%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	88%
Too difficult	12%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	12%
No	88%

Why or why not?

- I discussed this with the Commercial Foods teacher concerning recipes.

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	62%
No	25%

Why or why not?

- It would depend upon math skills of voc. instructor.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 30% - 90%
Average = 70%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	32%	64%	0%
b.	Job instruction training in developing manipulative skills....	32%	64%	0%
c.	Visual aids.....	16%	84%	0%
d.	Topical reports.....	0%	32%	32%
e.	Student debates.....	32%	16%	32%
f.	Demonstrations.....	48%	16%	16%
g.	Laboratory activities..	80%	0%	16%
h.	Field trips.....	0%	16%	80%
i.	Lectures.....	16%	80%	0%
j.	Resource speakers.....0%		16%	64%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	84%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- They felt less threatened by ratios after completing this unit.
- Laboratory activity good (force ratios). Video problem very easy. Exercises very difficult.
- I think that the material is very relevant to vocational instruction.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Working with Scale Drawings

UNIT NO.: 10

N = 4

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 12

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	0%
No	75%

Why or Why not?

- Title of class as students signed up for it is Consumer Math.
- First year of teaching math at this level.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	75%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	25%
Too difficult	75%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	25%
No	75%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	75%
No	25%

Why or why not?

- It would be good to have other input into it.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 60% - 95%
Average = 74%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	33%	67%	0%
b.	Job instruction training in developing manipulative skills....	67%	33%	0%
c.	Visual aids.....	67%	33%	0%
d.	Topical reports.....	0%	67%	0%
e.	Student debates.....	33%	33%	0%
f.	Demonstrations.....	67%	33%	0%
g.	Laboratory activities..	100%	0%	0%
h.	Field trips.....	0%	33%	33%
i.	Lectures.....	0%	33%	67%
j.	Resource speakers.....	0%	33%	33%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- I feel it was well put together.
- Unit very difficult for some students. Review of measurement unit very important. Video not as good as most.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Using Signed Numbers and Vectors

UNIT NO.: 11

N = 2

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 6

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	50%
No	50%

Why or Why not?

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	0%
Somewhat important	50%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	50%
Too difficult	50%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	50%
No	50%

Why or why not?

- Vectors need more assistance from Voc. Ed.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 70% - 85%
Average = 77%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	100%	0%
b.	Job instruction training in developing manipulative skills....	0%	100%	0%
c.	Visual aids.....	50%	50%	0%
d.	Topical reports.....	0%	100%	0%
e.	Student debates.....	0%	100%	0%
f.	Demonstrations.....	50%	50%	0%
g.	Laboratory activities..	50%	50%	0%
h.	Field trips.....	0%	50%	50%
i.	Lectures.....	0%	50%	50%
j.	Resource speakers.....	0%	50%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	0%
About the same	100%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Easy video problem. Good exercises. Vector discussion unnecessarily complicated.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Using Scientific Notation

UNIT NO.: 12

N = 2

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   5 Sessions = 50%
   6 Sessions = 50%
   Average Days Taught = 8

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- Did not have classroom set of scientific calculators.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	0%
Somewhat important	50%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	50%
No	50%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Range = 60% - 85%
Average = 72%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	100%	0%
b.	Job instruction training in developing manipulative skills....	50%	50%	0%
c.	Visual aids.....	100%	0%	0%
d.	Topical reports.....	50%	50%	0%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	0%	50%	50%
g.	Laboratory activities..	0%	100%	0%
h.	Field trips.....	0%	50%	50%
i.	Lectures.....	0%	0%	100%
j.	Resource speakers.....	0%	50%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- Unit generally well done. Video problem very simple.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Precision, Accuracy, and Tolerance

UNIT NO.: 13

N = 1

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 5

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- First year teacher.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

- Not convenient, or considered necessary.

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	0%
No	100%

Why or why not?

- Not necessary, unless teacher is very weak in math skills.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Average = 30%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	100%	0%	0%
b.	Job instruction training in developing manipulative skills....	100%	0%	0%
c.	Visual aids.....	0%	0%	100%
d.	Topical reports.....	0%	0%	100%
e.	Student debates.....	0%	0%	100%
f.	Demonstrations.....	0%	100%	0%
g.	Laboratory activities..	0%	0%	100%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	0%	100%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- I feel this is an excellent unit of instructional material.

TEACHERS' EVALUATION OF APPLIED MATHEMATICS

UNIT TITLE: Using Right-Triangle Relationships

UNIT NO.: 21

N = 1

1. Please indicate which sessions you used and the number of class periods (days) spent on each one used.

   6 Sessions = 100%
   Average Days Taught = 7

2. Prior to teaching this unit, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

First year teacher.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the unit?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this unit was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this unit, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

- Did not consider it necessary.

6. In your opinion, should vocational and academic teachers meet and work together when using this unit to maximize student learning?

Yes	0%
No	100%

Why or why not?

- Material is very complete and a teacher should be able to comprehend it.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this unit?

Average = 35%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this unit as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	100%	0%	0%
b.	Job instruction training in developing manipulative skills....	100%	0%	0%
c.	Visual aids.....	0%	100%	0%
d.	Topical reports.....	0%	0%	100%
e.	Student debates.....	0%	0%	100%
f.	Demonstrations.....	0%	0%	100%
g.	Laboratory activities..	0%	0%	100%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	0%	100%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this unit was:

Very good	100%
Good	0%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this unit?

- I feel that this unit is very good and is an important part of machine trades instruction.

APPENDIX D

EVALUATION OF SELECTED APPLIED COMMUNICATION MODULES

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Communicating in the Workplace

MODULE NO.: 1

N = 6

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

*7 Lessons = 17%
8 Lessons = 50%
10 Lessons = 33%

Average Number of Days Taught = 9.3

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes 50%
No 50%

Why or Why not?

- We did not discuss the different kinds of communication.
- Our students are vocational students who we want to be successful in the workplace.
- It's just not typical English subject matter. We presume they can already communicate.
- I feel it is important in "practical" English classes.
- First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	83%
Somewhat important	17%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	17%
About right	83%
Too difficult	0%

*Applied Communication is presented in 15 modules with each module divided into 10 activity lessons.

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 17%
No 83%

Why or why not?

- There was no one I felt I needed to consult with.
- Vocational Teachers.
- No other English course taught in the Vocational Building.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 50%
No 33%

Why or why not?

- But not possible. Only vocational teachers available at my school. There are only two academic teachers (both teaching applied courses).
- It would enhance learning.
- I don't know. I suppose it would have some benefits, but I don't think it is necessary.
- Program stands well alone.
- It depends on the situation.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 50% - 100%
Average = 72%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	50%	33%	17%
b.	Job instruction training in developing manipulative skills....	17%	17%	67%
c.	Visual aids.....	33%	67%	0%
d.	Topical reports.....	17%	17%	67%
e.	Student debates.....	17%	33%	50%
f.	Demonstrations.....	33%	50%	17%
g.	Laboratory activities..	33%	33%	33%
h.	Field trips.....	0%	17%	83%
i.	Lectures.....	0%	50%	50%
j.	Resource speakers.....	0%	50%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	50%
Good	17%
About the same	33%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- Very effective in demonstrating the different kinds and means of communicating.
- Students found this module boring. The outside activities I added made them more lively.
- I believe this module serves as a framework for what is to come.
- It was a good module to begin the year with.
- Good overview.
- Several of my students had jobs, so we were able to discuss the types of communication specific to their jobs.

  To stress the importance of feedback, I tried an old lesson I did in speech class in college. I drew some geometric shapes on cards, some as easy as triangles and cubes, but some with several shapes on them arranged in patterns. One student would pick a card, sit with his back to the blackboard, and give another

student instruction on what to draw on the board. The object was for the drawer to draw exactly what was on the card. The first few times, I allowed no feedback. The drawer could not ask questions or ask for clarification of his instructions. Some students were able to give excellent instructions, but most made mistakes which resulted in the drawing on the board being nothing like what was on the card. After a while, the students realized how clear and specific they had to be, and the instructions improved. Then I allowed the drawer to ask questions and get some feedback, and the drawings improved immensely. This lesson was a lot of fun, and it showed them the importance of clear directions and feedback. They learned to slow down, to break their instructions into steps, and to ask good, specific questions.

At the end of the unit, I had them write me clear, specific directions on how to get from the school to their house. The papers were quite detailed and accurate. This activity and the preceding one would also work well in the unit on following and giving directions.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Gathering and Using Information in the Workplace

MODULE NO.: 2

N = 5

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   4 Lessons = 20%
   7 Lessons = 40%
   9 Lessons = 20%
   10 Lessons = 20%

   Average Number of days taught = 9.5

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 80%
   No 20%

   Why or Why not?

   - First year stand alone Applied Communications.
   - Finding sources of information is a basic part of English instruction.
   - Library units are commonly used.
   - Getting information is crucial.
   - Students must know where to go for information.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	60%
Somewhat important	40%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	20%
About right	80%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 0%
No 100%

Why or why not?

- They are not in my building.
- I did not feel the need.
- Not enough time.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 40%
No 60%

Why or why not?

- If I were strictly academic I believe working with vocational teachers would be very helpful.
- Nice, but not necessary.
- To coordinate efforts.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 45% - 90%
Average = 64%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	40%	40%	20%
b.	Job instruction training in developing manipulative skills....	60%	0%	40%
c.	Visual aids.....	40%	60%	0%
d.	Topical reports.....	60%	40%	0%
e.	Student debates.....	0%	40%	60%
f.	Demonstrations.....	40%	40%	20%
g.	Laboratory activities..	60%	40%	0%
h.	Field trips.....	20%	0%	60%
i.	Lectures.....	0%	80%	20%
j.	Resource speakers.....	0%	40%	40%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	40%
Good	40%
About the same	20%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- Very good way of teaching students about different kinds of information and ways of using it effectively.
- The activities were not "applied" enough. This module was a success because of the things I added -- calling area merchants, doing career research, interviewing community members.
- Needs more applications - projects.
- I believe it had merit, but was somewhat repetitious.
- On ten different notecards, I wrote ten different items: video game rentals, 2% milk, 8-foot 2x4's, 4x8 sheets of drywall, unleaded gasoline, etc. Each student drew a card. That night, he or she had to call three different places to check the prices on the item

on the card. The next day we discussed communication problems they had, compared the prices, etc. They enjoyed it.
I got the school enrollment figures for the last few years from our principal. I gave them the figures, and they had to put the figures into some kind of graph, and discuss any trends they saw. Some did bar graphs, some line graphs. This went well.

Each student had to write a letter to some post-secondary educational facility requesting information about that facility. We composed, edited, and proofread in class. They had to find the school's address; I mailed them myself. Each student received some kind of reply over the next couple of weeks.

Each student had to arrange for an interview with some professional in the community. It had to be someone they didn't know, preferably someone in a field in which they were interested. We developed questions for them to ask in class. The students had to make arrangements for and conduct the interviews themselves, and then write up a report on how it went and what they gathered. This was an excellent activity.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Using Problem-Solving Strategies

MODULE NO.: 3

N = 5

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   1 Lessons = 20%
   2 Lessons = 20%
   3 Lessons = 40%
   6 Lessons = 20%

   Average Number of Days Taught = 13

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 60%
   No 40%

   Why or Why not?

   - I feel problem-solving is present in most areas I cover in the classroom, so it was always included.
   - First year stand alone Applied Communications.
   - Again this is not material usually found in traditional materials.
   - Great need for troubleshooting, diagnostic, or problem-solving skills.
   - But not the same degree. We increase this with A.P.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 40%
No 60%

Why or why not?

- We do a great deal of co-op learning so we have other teachers share with us in interdisciplinary studies.
- None available.
- For the exchange of ideas and sharing of materials basically.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 60%
No 40%

Why or why not?

- I think it would tie students' vocations to the idea of communications.
- Depends on the approach taken.
- The subject overlap and interdisciplinary program.
- To incorporate the idea that problem-solving is present in every academic and non-academic discipline.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 75% - 100%
Average = 84%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	100%	0%	0%
b.	Job instruction training in developing manipulative skills....	60%	20%	20%
c.	Visual aids.....	60%	40%	0%
d.	Topical reports.....	20%	40%	40%
e.	Student debates.....	60%	40%	0%
f.	Demonstrations.....	40%	40%	20%
g.	Laboratory activities..	60%	40%	0%
h.	Field trips.....	0%	40%	60%
i.	Lectures.....	0%	60%	40%
j.	Resource speakers.....	0%	60%	40%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	80%
Good	20%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- The video is not well received, but all other materials are excellent. The problem-solving strategies are sequentially organized and use a great deal of repetition. It makes for strong learning.
- Helps the students to get a better grip on ways to solve problems.
- Great - This module enables me to combine all the prior units I have taught into one big final project - The need to communicate by reading, speaking, listening, and watching for non-verbal communication, following and giving directions, gathering and using information, presenting your point of view, and participating in groups as well as developing problem-solving skills.
- This was my favorite module so far. The students really didn't need me. The management team just took over.
- The students enjoyed the simulation and really took their roles seriously.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Starting a New Job

MODULE NO.: 4

N = 3

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   3 Lessons = 33%
   9 Lessons = 33%
   10 Lessons = 33%

   Average Number of Days Taught = 9.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 33%
   No 67%

   Why or Why not?

   - This module often overlaps another course students currently take; also sophomores are often not working and material isn't applicable yet.
   - Our students need practical information and skills.
   - First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	33%
Somewhat important	67%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	67%
About right	33%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	67%
No	33%

Why or why not?

- Vocational teachers can use.
- For comparison purposes mostly (career planning class) to see how this information "stacks up".

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	33%
No	67%

Why or why not?

- So that students will understand the need for different jobs requiring different standards (employers).
- It works well alone.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 15% - 60%
Average = 45%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	33%	33%	33%
b.	Job instruction training in developing manipulative skills....	0%	100%	0%
c.	Visual aids.....	33%	33%	33%
d.	Topical reports.....	0%	33%	67%
e.	Student debates.....	0%	33%	67%
f.	Demonstrations.....	0%	33%	67%
g.	Laboratory activities..	33%	33%	33%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	67%	33%
j.	Resource speakers.....	0%	33%	67%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	33%
About the same	33%
Poor	33%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- The students seemed to be aware of the information and found this material redundant.
- The video's subject was trite and not well-received. Many of the lessons were not challenging and therefore insulted the students.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Communicating With Co-Workers

MODULE NO.: 5

N = 2

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   6 Lessons = 50%
   9 Lessons = 50%

   Average Number of Days Taught = 9.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 50%
   No 50%

   Why or Why not?

   - No real place for it.
   - It is used to reinforce the students I have who are newly - employed who need the information.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	0%
Somewhat important	100%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 50%
No 50%

Why or why not?

- Co-op teachers had many resource materials which they use in their "official" workplace units for students involved in after - school jobs. The material is very timely.
- Not necessary.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 0%
No 100%

Why or why not?

- Most classes that cover this particular material really are considered vocational or "borderline" vocational.
- Nice, but not necessary.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 0%
Average = 80%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

	More Emphasis	About the Same	Less Emphasis
a. Conference, discussion procedure in problem solving.....	50%	50%	0%
b. Job instruction training in developing manipulative skills....	0%	100%	0%
c. Visual aids.....	50%	50%	0%
d. Topical reports.....	0%	100%	0%
e. Student debates.....	50%	0%	50%
f. Demonstrations.....	0%	50%	50%
g. Laboratory activities..	50%	0%	50%
h. Field trips.....	0%	50%	50%
i. Lectures.....	0%	50%	50%
j. Resource speakers.....	0%	100%	0%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- I liked this module. It involved a lot of role playing, barriers in communication, group work. It went well.

- Students had to write a 1-2 page report on some communication problem they were involved in in the past. They had to describe the situation, use some actual quotes, describe how it turned out, try to analyze why there was a communication problem, and decide how it might have been avoided. They were to use the terms taught in the unit, such as sender, feedback, timing, body language, assertiveness, etc. This was a good assignment.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Participating in Groups

MODULE NO.: 6

N = 8

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

4 Lessons = 12%
5 Lessons = 38%
7 Lessons = 25%
8 Lessons = 12%
10 Lessons = 12%

Average Number of Days Taught = 10.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes 75%
No 25%

Why or Why not?

- I have worked extensively with cooperative learning and its related activities.
- We do a great deal of group work in Ag. Mech.
- We do a great deal of cooperative activities.
- Group work is used often in our English classes.
- We use co-op learning.
- I don't know.
- First year stand alone Applied Communications.
- My students enjoy working in groups.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	88%
Somewhat important	12%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	12%
About right	88%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 50%
No 50%

Why or why not?

- Not necessary.
- Discussed the roll groups play in each of the vocational areas.
- Consult about what?
- Co-op efforts with other disciplines.
- None available.
- For determination purposes of setting up/creating team structures.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 73%
No 37%

Why or why not?

- Not necessary.
- Nice, but not essential.
- I don't see any purpose, we all use some group work.
- Cooperative interdisciplinary teaching is most important.
- Probably good for academic teachers.
- Teamwork/group work is a major thrust for the 90s; teachers must show students how this concept is incorporated into the classroom.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 50% - 95%
Average = 76%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	73%	12%	12%
b.	Job instruction training in developing manipulative skills....	50%	50%	0%
c.	Visual aids.....	50%	37%	0%
d.	Topical reports.....	0%	62%	12%
e.	Student debates.....	37%	25%	12%
f.	Demonstrations.....	62%	12%	25%
g.	Laboratory activities..	37%	50%	12%
h.	Field trips.....	0%	12%	87%
i.	Lectures.....	0%	62%	37%
j.	Resource speakers.....	0%	62%	37%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	62%
Good	12%
About the same	25%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- There was a high interest level and excitement with many of the lessons - students enjoyed both videotapes for this module.
- Good method of teaching students importance of partici pating in groups and how to be a good participant.
- This is a good teaching tool for any subject.
- I use co-op learning - about 90% so this unit is great for A.P.
- My students seem to have a hard time working as a group. They learned a lot about give and take. I feel this was a valuable experience and will help when we get into the problem-solving module.
- The best things about this module were the group activities I added 2 exercises. The map of Atlanta was a good idea.

- Good place to begin.

- I have some group activities which I had them do. One is called "Who Should Survive?" Each group is given a list of eleven people left after a nuclear war; only seven of them can survive. Some facts are listed about each person. The group has to decide logically which seven will survive. This leads to some lively discussions.

  Another group lesson I have is something from NASA. You are an astronaut, crash-landed on the moon. You must walk several miles to the base station. Fifteen items are listed that you could take along with you- water, food, flashlight, parachute, matches, radio, etc. The group must decide the order of importance of those fifteen items. Then we compare it with what NASA says. They have fun doing this,and it's a great group exercise.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Following and Giving Directions

MODULE NO.: 7

N = 6

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   6 Lessons = 50%
   7 Lessons = 33%
   10 Lessons = 16%

   Average Number of Days Taught = 8.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 33%
   No 67%

   Why or Why not?

   - The various forms for direction - following are all important - and this module includes oral and written.
   - Stand alone first year Applied Communication.
   - Usually not included as a separate unit in either composition or literature.
   - We assume they already know this stuff.
   - We did teach decision making which was similar, but not so much emphasis.
   - Because of the importance of the topic.
   - First year teacher.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	84%
Somewhat important	16%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	50%
About right	50%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	16%
No	84%

Why or why not?

- Talked with vocational teachers for insight concerning this module.
- None available.
- We use inter - dis. projects and co-op learning.
- Not necessary.
- Resources were not available to me through other teachers.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	67%
No	33%

Why or why not?

- Could be helpful for academic teachers.
- Subject relates closely.
- Nice, but not necessary.
- Specific direction formats by vocational "block" teachers would enhance the skills in this module.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 35% - 80%
Average = 71%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	67%	33%	0%
b.	Job instruction training in developing manipulative skills....	67%	33%	0%
c.	Visual aids.....	50%	33%	16%
d.	Topical reports.....	16%	67%	16%
e.	Student debates.....	0%	50%	50%
f.	Demonstrations.....	33%	33%	33%
g.	Laboratory activities..	33%	33%	33%
h.	Field trips.....	16%	16%	50%
i.	Lectures.....	16%	67%	16%
j.	Resource speakers.....	0%	50%	33%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	33%
Good	16%
About the same	50%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- It is highly organized and very comprehensive. The level and types of activities are "doable" for my classes.
- I had to supplement quite a bit to make the module relevant.
- The video was too weak. This module has a lot of potential. I added some activities to it.
- There are many ways this subject can be taught other than A.P. But A.P. is easier, more acceptable to students.
- Very helpful in teaching students how to give oral and written directions. Also teaches students to ask questions and read carefully when following directions.

- Each student had to write out a series of specific directions on what to do if I collapsed in class. We compared to see whose was best, and why.

  Each student had to bring in some piece of equipment or hardware, and give oral directions to the class on how to operate it or assemble it. Students brought in video cameras, cymbal stands, CD players, curling irons, etc. This went well.

  One of the students' favorite assignments was in this unit. I brought in my son's Popoids and his Build 'n' Play Big Builder Set, two "toys" which you build things out of. One group took one set, and the other group took the other set. Each group had to construct something from one of the pictures on the boxes--an airplane, a car, a robot, whatever. While they were building their items, they also had to write down step-by-step instructions on how to build it. When they finished, each group gave the other the disassembled toy and the instructions on how to put it together. This turned out to take a couple of days; the instructions were complicated. Neither group was able to successfully assemble the other one's project until they asked for clarification on the instructions. They learned a lot about preciseness and the need for clarity and simplicity in instruction, and they had a great time doing it.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Communicating With Supervisors

MODULE NO.: 8

N = 1

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

10 Lessons = 10%

Average Number of Days Taught = 12.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 100%
No 0%

Why or why not?

- I talked with vocatioanl teachers for insight concerning this module.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 100%
No 0%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 70%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

	More Emphasis	About the Same	Less Emphasis
a. Conference, discussion procedure in problem solving.....	0%	100%	0%
b. Job instruction training in developing manipulative skills....	0%	0%	100%
c. Visual aids.....	0%	100%	0%
d. Topical reports.....	0%	0%	100%
e. Student debates.....	0%	100%	0%
f. Demonstrations.....	100%	0%	0%
g. Laboratory activities..	0%	100%	0%
h. Field trips.....	0%	0%	100%
i. Lectures.....	0%	100%	0%
j. Resource speakers.....	0%	100%	0%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Presenting Your Point of View

MODULE NO.: 9

N = 9

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

5 Lessons = 33%
6 Lessons = 11%
7 Lessons = 22%
8 Lessons = 11%
9 Lessons = 11%
10 Lessons = 11%

Average Number of Days Taught = 9.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes 44%
No 55%

Why or Why not?

- I presented or used this idea, but did not tie it to the workplace.
- It was a speech unit.
- Basically this was an English essay type. Now it's a project.
- This topic, if not structured properly, seems to turn into a free-for-all, so I had avoided giving students the opportunity to work with this subject.
- First year stand alone Applied Communication class.
- Part of persuasive writing assignments.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	11%
About right	88%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	33%
No	67%

Why or why not?

- There was no one I felt I needed to consult with.
- I worked with a speech/drama teachers for topic ideas (persuasive essays and speeches) for the students' presentations.
- They gave students ideas for presenting points of view.
- I didn't consult with others before, but halfway through, I was fortunate to talk with a computer coordinator who is looking at a program to help telephone executives learn to communicate.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	44%
No	44%

Why or why not?

- The variety of ideas would be helpful.
- Traditional speech tools could provide a foundation for this unit. These of course, are found in a traditional academic (speech) classroom. They would have to be incorporated into this for both teachers to share.
- I did not meet with vocational teachers, but it would have been helpful.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 60% - 90%
Average = 78%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	77%	22%	0%
b.	Job instruction training in developing manipulative skills....	22%	77%	0%
c.	Visual aids.....	33%	55%	11%
d.	Topical reports.....	22%	55%	22%
e.	Student debates.....	22%	55%	22%
f.	Demonstrations.....	44%	44%	11%
g.	Laboratory activities..	11%	44%	33%
h.	Field trips.....	0%	33%	55%
i.	Lectures.....	0%	55%	44%
j.	Resource speakers.....	0%	55%	33%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	33%
Good	55%
About the same	11%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- The level of student ownership is "high" and this creates a breeding ground for enthusiasm and excitement. Students really liked this unit.
- I liked this module because it looked carefully at using communication in the workplace and in going over the material with students, I realized that they do not know how important this skill is in everyday life.
- This module was good in that it got us going on things - persuasive papers, letters to the editor. The lessons were a springboard to the outside assignments I used.
- This is the most important module in my opinion.
- Very good - gave the students good practice in presenting their point of view. Made them aware of need for organizing and supporting evidence.
- I had to supplement considerably to make the module relevant to the class.

- We brainstormed on some things the students would like to see changed at our high school, and then discussed how they would go about getting those things changed. They ended up doing a 5-paragraph persuasive essay over their topics; one of them was published in the school newspaper. We did a lot of work on the papers in class, reading them aloud and getting suggestions on how to strengthen each argument. This went very well.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Communicating With Clients and Customers

MODULE NO.: 10

N = 1

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

10 Lessons = 100%

Average Number of Days Taught = 15.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 0%
No 100%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 0%
No 100%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 50%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

	More Emphasis	About the Same	Less Emphasis
a. Conference, discussion procedure in problem solving.....	0%	100%	0%
b. Job instruction training in developing manipulative skills....	0%	100%	0%
c. Visual aids.....	0%	0%	100%
d. Topical reports.....	0%	0%	100%
e. Student debates.....	0%	0%	100%
f. Demonstrations.....	0%	100%	0%
g. Laboratory activities..	0%	100%	0%
h. Field trips.....	0%	0%	100%
i. Lectures.....	0%	100%	0%
j. Resource speakers.....	0%	0%	100%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Making and Responding to Requests

MODULE NO.: 11

N = 1

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

10 Lessons = 100%

Average Number of Days Taught = 15.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	0%
No	100%

Why or why not?

- Time factors.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	0%
No	100%

Why or why not?

- Not as much hands on work.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 40%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	100%	0%
b.	Job instruction training in developing manipulative skills....	0%	0%	100%
c.	Visual aids.....	0%	0%	100%
d.	Topical reports.....	0%	0%	100%
e.	Student debates.....	0%	0%	100%
f.	Demonstrations.....	0%	100%	0%
g.	Laboratory activities..	0%	100%	0%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	0%	100%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Communicating to Solve Interpersonal Conflicts

MODULE NO.: 12

N = 8

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   5 Lessons = 12%
   6 Lessons = 25%
   7 Lessons = 37%
   10 Lessons = 25%

   Average Number of Days Taught = 13.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 37%
   No 62%

   Why or Why not?

   - This went along with most contemporary literature or novels; it is important for students to know that this conflict is in evidence in literature.
   - Not a part of the typical English class.
   - I think it's easy to think in terms of only traditional literature, grammar, composition. Also it helps to have materials for this.
   - Important for vocational students.
   - First year stand alone Applied Communication class.
   - I don't think I had relevant material.
   - It is not part of the program at our school.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	62%
Somewhat important	37%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	12%
About right	87%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	37%
No	62%

Why or why not?

- Worked into English unit.
- I am in such a small school that I'm kind of by myself on this.
- No other English teacher in this program.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	37%
No	50%

Why or why not?

- Vocational teachers can offer advice on the topic.
- The process used for interpersonal conflict can be adapted to any work setting.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Range 25% - 80%
Average = 63%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	100%	0%	0%
b.	Job instruction training in developing manipulative skills....	62%	25%	12%
c.	Visual aids.....	12%	62%	25%
d.	Topical reports.....	0%%	50%	50%
e.	Student debates.....	37%	62%	0%
f.	Demonstrations.....	25%	50%	25%
g.	Laboratory activities..	25%	50%	25%
h.	Field trips.....	0%	37%	50%
i.	Lectures.....	0%	37%	62%
j.	Resource speakers.....	0%	75%	12%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	37%
Good	50%
About the same	12%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- The video is realistic and is a wonderful "springboard" for discussion. The activities are tightly organized and varied.
- Seems practical. Good video.
- Overall, the class felt that they had already established ways to deal with conflict (usually negative) and didn't seem to feel they would change anytime soon. My hope was that the module at least informed them of more productive ways to handle interpersonal conflict.
- I liked this material. I feel that it's important to work on conflict. I do think the acting in this module was weak.
- More practical for students.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Evaluating Performance

MODULE NO.: 13

N = 1

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

10 Lessons = 100%

Average Number of Days Taught = 13.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

Yes	0%
No	100%

Why or Why not?

- First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	100%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	100%
No	0%

Why or why not?

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 100%
No 0%

Why or why not?

- We had vocational teachers evaluate students (performance evidence). Students used results to set goals. Implemented goals.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 70%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	100%	0%	0%
b.	Job instruction training in developing manipulative skills....	0%	0%	100%
c.	Visual aids.....	0%	100%	0%
d.	Topical reports.....	100%	0%	0%
e.	Student debates.....	0%	100%	0%
f.	Demonstrations.....	0%	100%	0%
g.	Laboratory activities..	100%	0%	0%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	0%	100%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	100%
Good	0%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- Students must learn to take responsibility for their performances and accept constructive criticism. This module helped students learn how to use a performance evaluation to their advantage!!

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Upgrading, Retraining, and Changing Jobs

MODULE NO.: 14

N = 1

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   7 Lessons = 0%
   8 Lessons = 0%
   10 Lessons = 100%

   Average Number of Days Taught = 11.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 0%
   No 100%

   Why or Why not?

   - First year stand alone Applied Communication class.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	0%
Somewhat important	100%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	100%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes	100%
No	0%

Why or why not?

- We had vocational teachers help with mock interviewing.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes	100%
No	0%

Why or why not?

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 75%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	100%	0%
b.	Job instruction training in developing manipulative skills....	0%	100%	0%
c.	Visual aids.....	0%	100%	0%
d.	Topical reports.....	100%	0%	0%
e.	Student debates.....	0%	100%	0%
f.	Demonstrations.....	100%	0%	0%
g.	Laboratory activities..	0%	100%	0%
h.	Field trips.....	0%	0%	100%
i.	Lectures.....	0%	100%	0%
j.	Resource speakers.....	0%	100%	0%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	0%
Good	100%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

TEACHERS' EVALUATION OF APPLIED COMMUNICATION

MODULE TITLE: Improving the Quality of Communication

MODULE NO.: 15

N = 2

1. Please indicate which lessons you used and the number of class periods (days) spent on each one used.

   2 Lessons = 50%
   5 Lessons = 50%

   Average Number of Days Taught = 4.0

2. Prior to teaching this module, was this a topic you normally included in your course of study?

   Yes 0%
   No 50%

   Why or Why not?

   - Prior to this English course, I was teaching Ag. Mechanics and we did not necessarily emphasize communication skills as such.

3. Overall, how important do you feel it is for vocational students to master the competencies covered in the module?

Very important	50%
Somewhat important	0%
Not very important	0%
Not at all important	0%

4. In general do you feel that the level of difficulty of this module was:

Too easy	0%
About right	50%
Too difficult	0%

5. When planning and using this module, did you consult with other teachers of related subject matter?

Yes 0%
No 50%

Why or why not?

- I did not feel it necessary.

6. In your opinion, should vocational and academic teachers meet and work together when using this module to maximize student learning?

Yes 0%
No 50%

Why or why not?

- Not in my case. I teach this course as a "stand alone" English course.

7. In your opinion, what percent of the instructional time were the students actively engaged in learning activities when using this module?

Average = 100%

8. Please indicate the amount of emphasis you placed on the following teaching methods, when using this module as compared to other courses you teach.

		More Emphasis	About the Same	Less Emphasis
a.	Conference, discussion procedure in problem solving.....	0%	50%	0%
b.	Job instruction training in developing manipulative skills....	0%	0%	50%
c.	Visual aids.....	0%	50%	0%
d.	Topical reports.....	0%	0%	50%
e.	Student debates.....	0%	0%	50%
f.	Demonstrations.....	0%	0%	50%
g.	Laboratory activities..	0%	0%	50%
h.	Field trips.....	0%	0%	50%
i.	Lectures.....	0%	0%	50%
j.	Resource speakers.....	0%	0%	50%

9. Overall, when compared to traditional materials and methods of teaching, do you feel this module was:

Very good	50%
Good	50%
About the same	0%
Poor	0%
Very poor	0%

10. Overall, what comments do you have concerning this module.

- It met my needs very well in demonstrating the importance of being able to communicate in the workplace.
- The students enjoyed checking their reading speed; we did only the first five lessons, but the students enjoyed them.
- We spent a few days working on improving reading speed. I did some timed reading checks to establish each student's rate. Over the next few days, I handed out several articles from newspapers and magazines and we did timed readings over them. There was some modest improvement, but I'm not enough of an expert in this field and we didn't have enough time to show dramatic gains in reading speed. But at least some of them became aware of their need to read faster and the possibility that their reading speed can be improved.